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Attorney Docket No.: 011925-0057-999

IN THE UNITED STATES PATENT & TRADEMARK OFFICE
BOARD OF PATENT APPEALS & INTERFERENCES

Application of:	Frederick Morello et al.	Confirmation No.:	2229
Serial No.:	09/896,365	Art Unit:	3633
Filed:	June 29, 2001	Examiner:	Jeanette Chapman
For:	Building Panel and Panel Crimping Machine	Attorney Docket No.:	011925-0057-999

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P.O. Box 1450
Alexandria, VA 22313-1450

APPEAL BRIEF

Sir:

This Appeal Brief is filed in response to the Final Office Action mailed August 19, 2010, and further to the Notice of Appeal filed November 19, 2010.

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I. Real Party in Interest

The real party in interest is M.I.C. Industries, Inc. of Reston, Virginia, as evidenced by an Assignment recorded at Reel/Frame 022706/0865.

II. Related Appeals and Interferences

U.S. Patent Application No. 12/068,425, which is a divisional of the instant application (US Serial No. 09/896,365) is currently on appeal and awaiting a decision from the Board of Patent Appeals and Interferences.

III. Status of Claims

Claims 1, 3-12, 14-15, 17-20, 28-30 and 33-34 are pending in the instant application. Claims 1, 3-12, 14-15, 17-20, 28-30 and 33-34 have been finally rejected. Claims 1 and 15 are independent claims. Claims 3-12, 14, 17-20 28-30 and 33-34 are dependent claims. The rejections of claims 1, 3-12, 14-15, 17-20, 28-30 and 33-34 are now appealed.

IV. Status of Amendments

No amendments have been filed subsequent to the final rejection.

V. Summary of Claimed Subject Matter

Independent claim 1 is directed to a novel building panel configured to be a load-bearing panel of a self-supporting building structure, such as a self-supporting metal building. As described in the present application, such buildings can have various shapes (e.g., arch, gable, double-radius) such as illustrated in cross section in FIGS. 1-3 of the present application, reproduced below.

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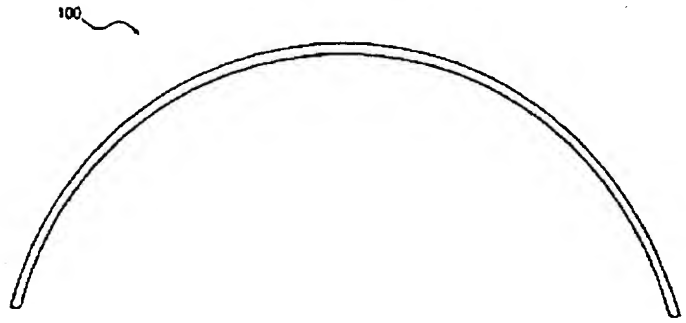

FIG. 1
PRIOR ART

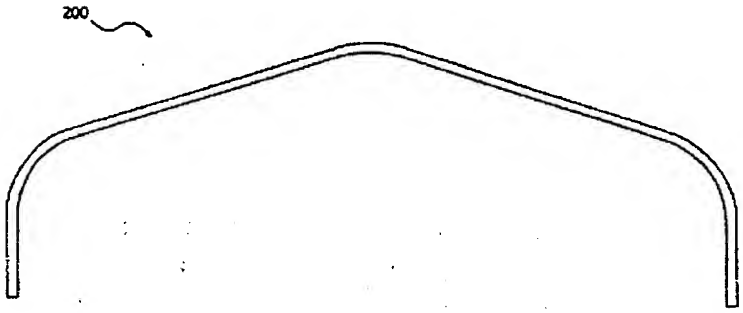

FIG. 2
PRIOR ART

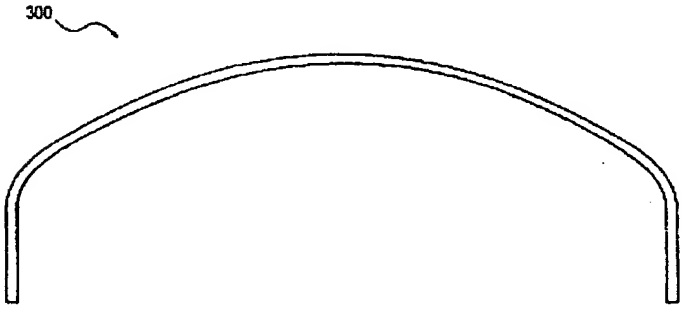

FIG. 3
PRIOR ART

Cross-sections of exemplary shapes of self-supporting buildings.

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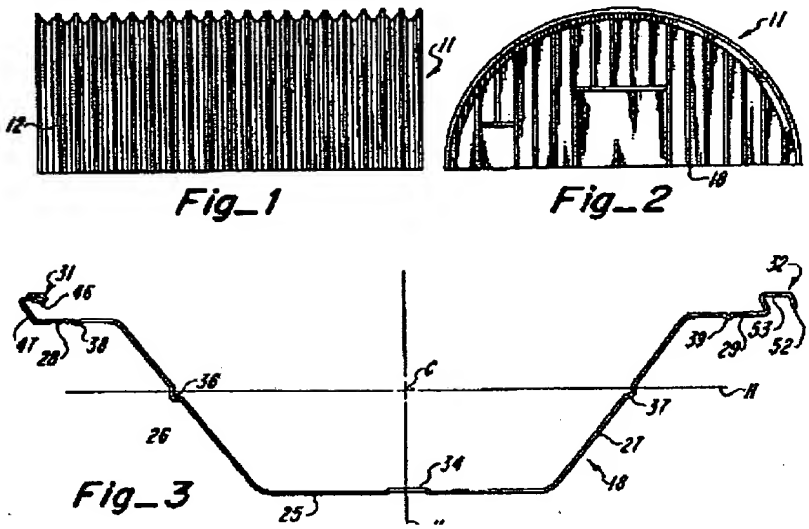
Self-supporting metal buildings fabricated from prior art panels are known in the art. For example, U.S. Patent No. 4,505,084 ("Knudson") relied upon by the Office discloses a self supporting metal building formed with prior-art panels that have straight center portions in cross section. FIGS. 1 and 2 of Knudson, reproduced below, show a side view and a front view, respectively, of a self-supporting metal building. FIG. 3 of Knudson, reproduced below, shows the prior-art panel with a straight center portion (lower intermediate portion 25) that is used to make the building of FIGS. 1 and 2. (Knudson at FIGS. 1-3; col. 1, lines 55-63; col. 2, lines 22-62.)



FIGS. 1-3 of USP 4,505,084 (Knudson)

It will be appreciated that the prior-art panel illustrated in FIG. 4 of the instant application is substantially similar to that illustrated in FIG. 3 of Knudson shown above.

The inventive building panels taught in the present application can be used to make self-supporting buildings. An exemplary building panel 900 in this regard is illustrated in FIG. 9 of the application, reproduced below. FIG. 9 shows the building panel 900 in cross section. The longitudinal direction is out of the plane of the paper.

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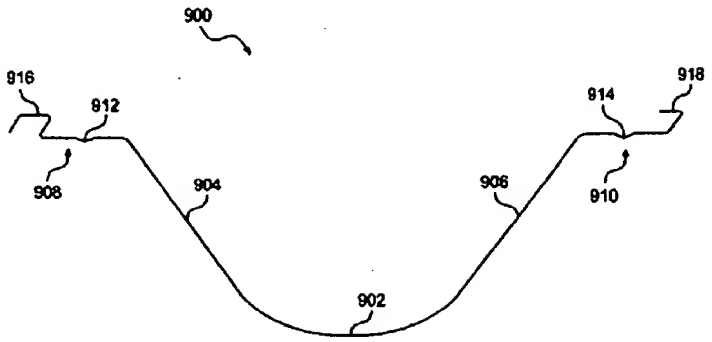

FIG. 9

Exemplary panel 900 in cross section. Longitudinal direction is out of plane of paper.

The exemplary building panel 900 includes a curved central portion 902 having a curved shape in cross section (in the plane of the paper) perpendicular to a longitudinal direction along a length of the building panel (the longitudinal direction is out of the plane of the paper). The building panel 900 also includes a pair of sidewall portions 904 and 906, which extend from opposite ends of the curved central portion 902 in cross section, and a pair of complementary wing portions 908 and 910 extending from the side wall portions 904 and 906. The complementary wing portions 908 and 910 permit connecting adjacent building panels 900 together. The building panel 900 is formed from sheet material (e.g., steel sheet), and the panel is configured to mate with adjacent building panels 900 so as to form a load-bearing panel of a self-supporting building structure. The complementary wing portions 908 and 910 of adjacent building panels 900 can be connected together to form a building structure such as a metal building, e.g., by connecting together hook portion 916 and hem portion 918. In the example of FIG. 9, the complementary wing portions 908 and 910 also include notched portions 912 and 914 for providing additional stiffness. (Application at p. 10, lines 12-29; p. 11, lines 16-26; p. 12, lines 7-27; Abstract.)

The building panel 900 is also curved (arched) in the longitudinal direction (as well as being curved in cross section), so as to be able to form self-supporting buildings of various shapes, such as illustrated in FIGS. 1-3 of the present application shown above. (Application at p. 1, lines 22 – p. 2, line 13; p. 6, lines 15-19; p. 8, line 25 – p. 9, line 3; FIG. 1-3.) In addition, the curved central portion 902 of the building panel 900 includes transverse corrugations therein, which can be imparted via a suitable panel crimping machine for crimping (corrugating) the building panel 900. (Application at p. 7, lines 9-28; p. 14, lines

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16-29; p. 15, line 1 – p. 16, line 3; FIG. 11.) Imparting transverse corrugations via a crimping machine facilitates curving (arching) the building panel in the longitudinal direction.

The use of a curved central portion 902 in the building panel 900, instead of a straight central portion 402 of prior art panels (see FIG. 4 of the present application), provides the building panel 900 with increased strength and rigidity compared to prior art building panels with straight central portions 402 (including those with notched stiffeners), thereby providing improved resistance to both positive and negative bending moments. (Application at p. 6, lines 3-19.)

Independent claim 15 is directed to a self-supporting building structure comprising a plurality of interconnected building panels that are configured to be load-bearing walls of the self-supporting building structure. Exemplary building structures in the form self-supporting buildings are shown in the present application in FIGS. 1-3 in cross section, reproduced above. Another exemplary building structure 100 in the form of plural interconnected building panels is illustrated in FIG. 10, reproduced below. By connecting together many such panels 900, building structures such as illustrated in FIGS. 1-3 can be formed.

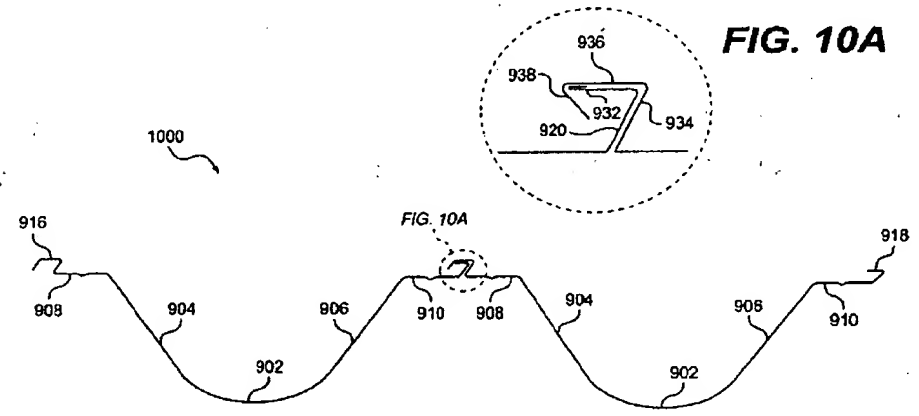

FIG. 10

As shown in FIG. 10, one or more of the panels 900 of the self-supporting building structure, e.g., building structure 1000, includes a curved central portion 902 having a curved shape in cross section (in the plane of the paper) perpendicular to a longitudinal direction along a length of the building panel (the longitudinal direction is out of the plane of the paper), a pair of sidewall portions 904 and 906 extending from opposite ends of the curved central portion 902 in cross section, and a pair of complementary wing portions 908 and 910 extending from the side wall portions 904 and 906 that permit connecting adjacent building panels 900 together. The building panel 900 is formed from sheet material (e.g., steel sheet),

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and the panel 900 is configured to mate with adjacent building panels 900 so as to form a load-bearing panel of a self-supporting building structure. The complementary wing portions 908 and 910 of adjacent building panels 900 can be connected together to form a building structure such as a metal building, e.g., via hook portion 916 and hem portion 918. (Application at p. 10, lines 12-29; p. 11, lines 16-26; p. 12, lines 7-27; p. 13, lines 3-9; Abstract.)

VI. Grounds of Rejection to be Reviewed on Appeal

Whether claims 1, 3 and 33 are unpatentable under 35 U.S.C. § 103(a) over U.S. Patent No. 4,796,393 ("Toti") in view of U.S. Patent No. 4,505,084 ("Knudson"), U.S. Patent No. 4,358,916 ("Lacasse") and U.S. Patent No. 4,390,010 ("Skillman").[1] Whether claims 1 and 3-12 are unpatentable over Knudson in view of Toti, Lacasse and Skillman. Whether claims 14-15, 17-20, 28-30, 32 and 34 are unpatentable over Knudson in view of Toti, Lacasse, Skillman, U.S. Patent No. 4,579,785 "Karoubas"), and U.S. Patent No. 5,020,295 ("Haines").

VII. Argument

A. The rejection of claims 1, 3 and 33 under 35 U.S.C. §103(a) does not make out a *prima facie* case of obviousness

The rejection of claims 1, 3 and 33 does not make out a *prima facie* case of obviousness for a number of reasons. In particular, even if, *arguendo*, Toti, Knudson, Lacasse and Skillman were combined as suggested by the Office, the resulting hypothetical combination would not yield the combination of features claimed. In addition, the applied references teach away from their combination and teach away for the claimed subject matter. Further, the rejection suffers from factual mistakes, inconsistencies and lack of clarity. Moreover, the rejection ignores additional, previously applied art of record that strongly teaches away from the claimed subject matter.

1. Even if combined, *arguendo*, the applied references would not yield a building panel configured to be a load-bearing panel of a self-supporting building structure as claimed in claim 1.

First, as noted above, independent claim 1 of the present application is directed to building panel configured to be a load-bearing panel of a self-supporting building structure, e.g., a load-bearing panel in a wall or a roof of a self-supporting sheet-metal building. In

[1] The Final Office Action erroneously states at p. 2 that claim 31 is also rejected, but this is incorrect insofar as claim 31 was previously canceled.

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contrast, the Office's primary reference, Toti, does not relate to load-bearing panels of self-supporting building structures but instead relates to decorative awnings for windows and doors and to decorative facia for roof lines. (Toti at col. 1, lines 6-11; Abstract.) FIGS. 1 and 2 of Toti, reproduced below, illustrate two variations of awnings, one of which (FIG. 2) is relied upon by the Office in rejecting claim 1:

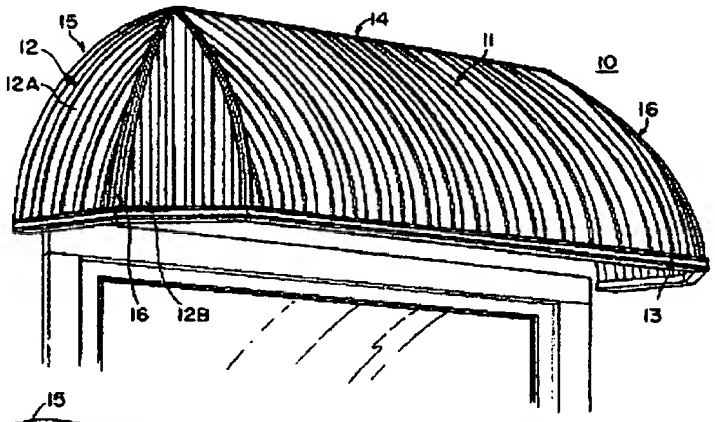

FIG. 1

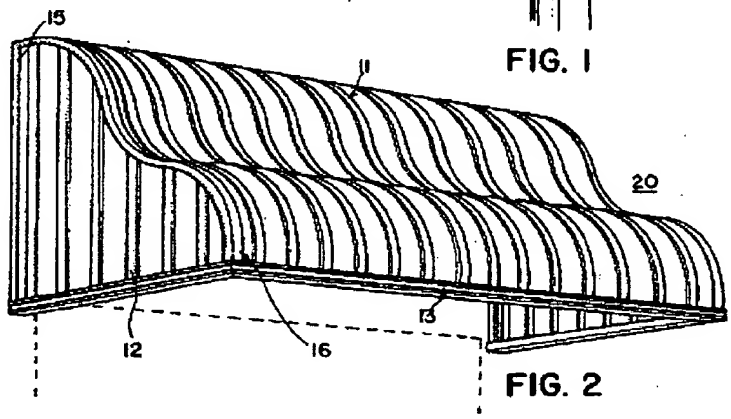

FIG. 2

FIGS. 1 and 2 of USP 4,796,393 (Toti)

The Final Office Action of 08/19/10 ("the FOA") includes a version of FIG. 2 of Toti, reproduced below, marked up by the examiner to include identification of features that allegedly correspond to various elements of claim 1.

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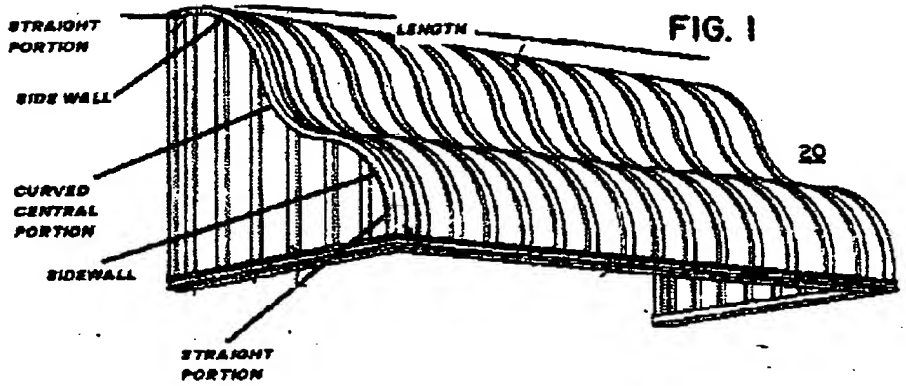

FIG. 2 of Toti Marked Up by the Examiner

Using Toti as the primary reference, the Office alleges an obviousness rejection as follows. The Office alleges that Toti discloses the features of claim 1 as indicated on the Office's marked up drawing from Toti (above), except for the claimed pair of complementary wing portions, which the Office explicitly acknowledges that Toti lacks. (FOA at p. 2.) The Office asserts that it would have been obvious to modify Toti's awning to include wing portions of Knudson (presumably features 31 and 32) "to enable connection of various panels to form a single." (FOA at p. 3.) The Office also cites to Lacasse and Knudson for allegedly disclosing panels that are curved in the longitudinal direction and alleges that it would have been obvious to curve "the base reference," i.e., Toti's awning panel, in "any direction to create an alternative design feature." (FOA at p. 3.) However, it is unclear whether and how the Office is relying upon Lacasse and Knudson in this regard since the Office inconsistently twice alleges elsewhere that Toti's panel itself is curved in the longitudinal direction (even though it is not, as explained elsewhere herein).[2] The rejection should be overturned for lack of clarity in this regard.

The FOA further cites to Skillman for allegedly disclosing "a building panel 22 configured to be a load bearing [panel] of a self-supporting building structure" and alleges that it would have been obvious to modify the panels of Toti's awning "to be load supporting in order to accommodate accessories supported therefrom as taught by Skillman." (FOA at p.

[2] The FOA's apparent reliance on Lacasse and Knudson for allegedly disclosing a panel curved in a longitudinal direction (FOA at p. 3) is confusing and inconsistent since the FOA already alleges at p. 2 for Toti's panel that "the panel are curved in the longitudinal direction," and at p. 4 that "Toti discloses the building panel curved in the longitudinal direction." It is unclear which art the Office is relying upon to allegedly find the feature of a building panel being curved in the longitudinal direction and how the Office is using such art.

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4.)[3] The FOA is factually erroneous in its reliance on Skillman since Skillman's feature 22 is not a load bearing panel of a self supporting building structure as alleged by the Office, but rather, feature 22 is a solar energy collection assembly mounted on a building. (See Skillman at col. 2, lines 56-64.) Also, the FOA is particularly vague in its reliance on Skillman and does not explain particularly what is being modified and how. It is ***facially insufficient*** for the Office to simply allege, "It would have been obvious to modify the panel of Toti to be load supporting in order to accommodate accessories supported therefrom as taught by Skillman" without explaining ***how*** Toti's awning panel should be modified. In this regard, the Office's rejection is not understood, and should be withdrawn.

With that background and the Office's rejection in mind, Applicants respectfully submit that even if the applied references were combined as suggested by the Office, *arguendo,* the resulting hypothetical combination would not yield a building panel configured to be a load-bearing panel of a self-supporting building structure as claimed. In particular, the awning and facia of Toti, are not load-bearing panels of a self-supporting building structure as claimed; rather, Toti's awning and facia are structures that contain frames to support the panels and that are themselves supported by a building, e.g., via attachment to a wall. Toti states, for example, with reference to Fig. 1:

> The typical awning structure utilizing the technology of this invention will comprise a main panel section 11, a side panel arrangement 12, a bottom ***frame assembly*** 13, a top ***frame assembly*** 14, a side frame assembly 15, and corner cover panels 16. The top frame assembly 14 and side frame assembly 15 are adapted to cooperate with ***mounting brackets*** (as will be described below) to hang the awning assembly and retain it in position ***on the mounting wall*** behind the awning. (Toti at col. 7, lines 31-39, emphasis added.)

This is not a disclosure of panel configured to be a load-bearing panel of a self-supporting building structure; rather, this is a disclosure of an awning that uses a frame structure to the support the panels and that uses mounting brackets to mount the awning to a wall of a building. Indeed, Toti discloses that the metal from which Toti's panels are formed is preferably "aluminum having a thickness in the range of 0.018-0.040 inch." (Toti at col. 8, lines 19-21). One skilled in the art would recognize that such sheet metal is not sufficient to

[3] The FOA at p. 4 erroneously lists its allegations relating to Skillman and the claimed load-bearing-panel feature, under the heading "Claim 33" instead of in connection with claim 1. Claim 33, however, does not recite "load bearing." Rather, claim 33 recites subject matter relating to the panel being curved over an entire width of the curved central portion. Thus, the Office's remarks are erroneous in this regard and are understood to pertain to claim 1, not claim 33.

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be a load bearing wall of a self-supporting building structure, since Toti itself further discloses that in some instances even further bracing may be provided as illustrated in Figs. 14 and 15 for "a large awning which requires additional bracing for structural stability." (Toti at col. 12, lines 57-64.)

Thus, even if Toti's awning/facia panels were modified, *arguendo*, to have complementary wing portions, to be curved in the longitudinal direction, and to have some (as of yet undefined) mechanism to support "accessories" as proposed by the FOA at pp. 2-4, the resulting hypothetical awning panels of Toti would still not be configured to be load-bearing panels of a self-supporting building structure as claimed. The rejection of claim 1 should be overturned for at least this reason.

2. Toti teaches away from configuring Toti's awning panel to be a load-bearing panel of a self supporting building structure as required by claim 1.

As the Office is aware, and as discussed at MPEP § 2142.02(VI), prior art references must be considered in their entirety, including portions that teach away from the claims. (*See W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984).) In addition, as noted at MPEP § 2145(D)(2), it is not proper to combine references where the references themselves teach away from their combination.

In this case, Toti teaches away configuring Toti's awning panel to be load-bearing panel of a self supporting building structure. First, as noted above, Toti fundamentally relates to decorative awnings for windows and doors and to decorative facia for roof lines. (Toti at col. 1, lines 6-11; Abstract.) Toti is not concerned with load bearing wall and roof panels of self-supporting metal buildings. Toti explicitly explains that the awning and panel structures disclosed therein are supported by frames and that the awning structures are themselves mounted on a supported by a building. (Toti at col. 7, lines 31-39, emphasis added.) Indeed, the metal from which Toti's panels are formed is preferably "aluminum having a thickness in the range of 0.018-0.040 inch" (Toti at col. 8, lines 19-21), and one skilled in the art would have understood that the structures described therein are not suited to be load-bearing panels of self-supporting building structures, since Toti explicitly indicates that such structures may need additional bracing structural stability. (Toti at col. 12, lines 57-64.) In light of that, Toti's own disclosure teaches away from modifying those panels to be load bearing panels of a self supporting building structure. One skilled in the art would not have been inclined to change Toti's rather flimsy awning panels into load bearing panels for a self-supporting

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building structure, and one skilled would not have looked to Toti for insights into fabricating load bearing panels for a self-supporting building structure.

3. Even if combined, *arguendo*, the applied references would not yield a building panel having the cross-sectional shape claimed in claim 1.

Claim 1 requires, *inter alia*, that the straight portions (of the side wall portions) extend tangentially in cross section from the concaved-shaped curved central portion, and even if, *arguendo*, the applied references were combined by the Office, the result panel would not have such a cross-sectional shape. In particular, an example of the claimed shape is shown below in Fig. 9, reproduced from the instant application.

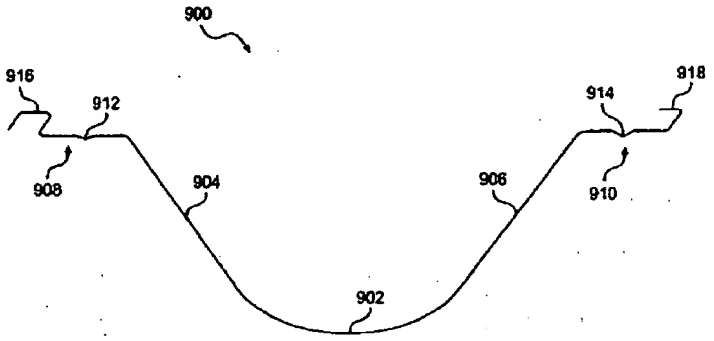

FIG. 9

Exemplary panel 900 in cross section. Longitudinal direction is out of plane of paper.

As can be seen in the example of Fig. 9 above, the straight portions of sidewalls 904 and 906 extend tangentially from the concave-shaped curved central portion 902. (The curved central portion 902 is concave-shaped from the perspective between the side wall portions 904 and 906.) In contrast, the Office's rejection does not purport to change the cross sectional shape of Toti's panel, and Toti's panel simply does not possess the claimed cross sectional shape. To illustrate, the cross-sectional shape of Toti's panel as relied upon by the Office is shown below, with labeling corresponding to that alleged by the Office at page 3 of the FOA. The approximate tangent lines to the Office's purported curved central portion are illustrated below with dashed lines.

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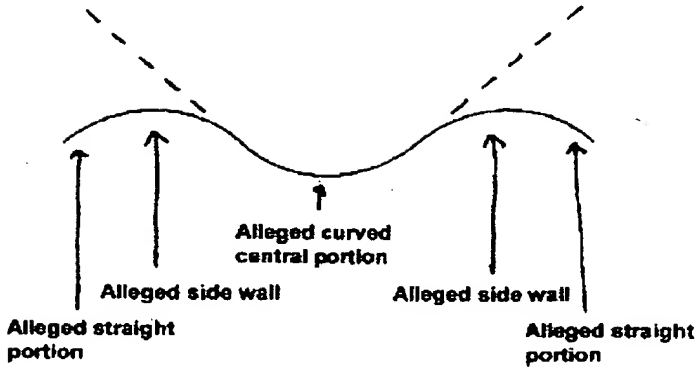

Toti's Fig. 2 Panel in Cross-Section. Longitudinal direction is out of plane of paper.

As seen from the figure above, the Office's purported "straight portions" (if they are straight, which is not conceded) plainly do not extend tangentially from a concaved-shaped curved central portion. The Office's purported "straight portions" of Toti's panel are not aligned with and positioned at the dotted tangent lines. Accordingly, Toti's panel, even if modified, *arguendo*, as suggested by the Office, would not have the cross-sectional shape claimed. The rejection of claim 1 should be overturned for at least this reason.

4. The rejection of claims 1, 3 and 33 does not make out a *prima facie* case of obviousness because it does not set forth a sufficient reason for the hypothetical modification.

The rejection of claims 1, 3 and 33 purports (to the extent understood)[4] to modify Toti's panel to be curved in the longitudinal direction on grounds that, "It would have been obvious to one of ordinary skill in the art to modify the base reference to be curved in any direction to create an alternative design feature for the building construction." (FOA at p. 3.) This alleged reason for the modification does not pass muster, since it is so broad and vague as to purport to permit any modification without limitation simply as a design alternative.

Under *KSR Int'l Co. v. Teleflex Inc.* (KSR), "rejections on obviousness cannot be sustained by mere conclusory statements; instead there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." (550 U.S. 398, 418; USPQ2d 1385, 1396 (2007).) The Office's proffered reason fails that test since there is no rational underpinning to the Office's overly broad statement here. It is facially not rational to allege in conclusory fashion that it would have been obvious to "modify the base

[44] As noted previously herein, the FOA elsewhere states twice that Toti's panel itself is curved in the longitudinal direction, though Applicants contend it is not.

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reference to be curved in ***any direction***." The Office is effectively saying that it would be obvious to curve the panel in ***any imaginable way*** simply to create ***a different panel***. This is not a rational statement for a modification of Toti's panel and awning, since Toti's awning cannot credibly involve curving in ***any direction***. Also, the Office's vague reason of creating an "alternative design feature" is so broad as to be no reason at all. This same proffered reason is so broad as to be applicable to nearly any modification in any situation and would purport to render essentially any variation of a device obvious as being "an alternative design feature." Such a rejection cannot stand under *KSR*, and the rejection should be overturned.

5. The rejection of claims 1, 3 and 33 is mistaken regarding factual allegations involving Toti, Skillman and Lacasse and fails to identify what features of Skillman are being relied upon.

The rejection of claims 1, 3 and 33 is mistaken regarding factual allegations regarding Toti, Skillman and Lacasse, and should be overturned for failing to establish a *prima facie* case of obviousness on this ground.

First, the FOA twice alleges twice Toti's panel is curved in the longitudinal direction, but the FOA is mistaken in this regard. The FOA states at p. 2 for Toti's panel that "the panel are curved in the longitudinal direction," and at p. 4 that "Toti discloses the building panel curved in the longitudinal direction." This is incorrect given the way that the Office purports to rely on the shape of Toti's in cross section. In particular, if the Office maintains that Toti's panel possesses the claimed central curved portion, side wall portions, and straight portions in cross section as alleged in the Office's marked-up version of Toti's Fig. 1 (see below), then the Office must accept that the longitudinal direction is perpendicular to the cross-sectional (or transverse) direction. The Office's label "length" (see below) corresponds to the longitudinal direction, as the Office is treating it.

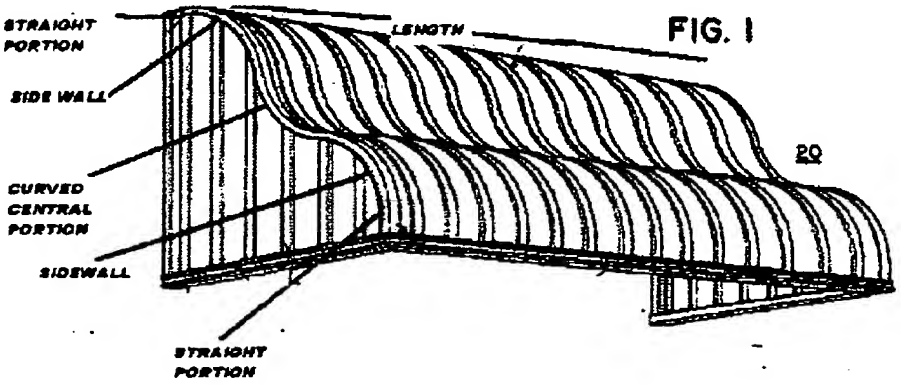

Fig. 2 of Toti Marked Up by the Examiner

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As shown in the Office's marked up figure above, the longitudinal direction is parallel to the top back edge of Toti's awning and parallel to the bottom front edge of Toti's awning. By inspection, it is readily apparent that the Toti's panel/awning is ***straight*** in the longitudinal direction, ***not curved***. The presence of ribs in Toti's panels (e.g., ribs 24 shown in Fig. 4 for instance), does not defeat the fact that Toti's panel is straight in the longitudinal direction, since the instant application explicitly contemplates that a straight portion of a panel is still straight even if it contains ribs (or notches). For example, the present application describes a known panel in Fig. 4, reproduced below, as having a straight central portion 402, even though it includes a notch 408, stating, "The central portion 402 is straight, and in order to increase that portion's stiffness, it may include a notched portion 408." (Application at p. 2, lines 19-21.)

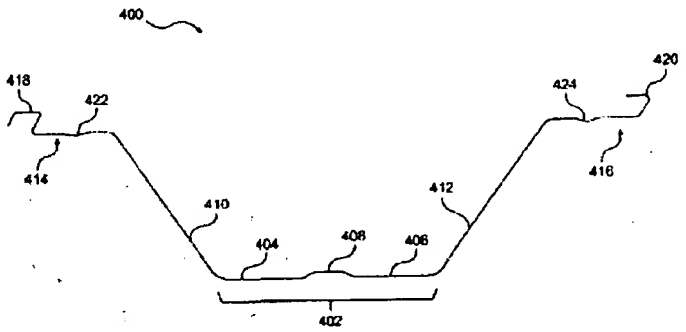

FIG. 4

Fig. 4 of present application with straight central portion 402.

Thus, even with the presence of ribs, Toti's panel is clearly straight in the longitudinal direction, not curved, contrary to the Office's allegations.

Second, the FOA alleges that Skillman discloses disclosing "a building panel 22 configured to be a load bearing [panel] of a self-supporting building structure" (FOA at p. 4), but the FOA is mistaken in this allegation. Contrary to the Office's statement, Skillman's feature 22 is not a load bearing panel of a self supporting building structure, but rather, feature 22 is a solar energy collection assembly mounted on a building. (See Skillman at col. 2, lines 56-64.) It is incumbent upon the Office to make proper factual findings, and the Office has not done so here.

Third, the FOA is vague in its reliance on Skillman and does not explain particularly what is being modified and how. Indeed, the Office merely alleges that it would have been obvious to modify the panels of Toti's awning "to be load supporting in order to

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accommodate accessories supported therefrom as taught by Skillman." (FOA at p. 4.) How is Toti's panel to be modified so as to be load supporting? What "accessories" is the Office referring to? Skillman itself appears to not even use the word "accessories." This deficiency compounds the Office's factual error noted just above with regard to Skillman, because this vagueness rests upon a foundational factual error on the Office's part. It is not the Applicant's burden to speculate on the nature of the Office's rejection – the Office must articulate the rejection with clarity. Applicants respectfully submit that the FOA is facially insufficient in this regard.

Fourth, the OFOA alleges that Lacasse's panel is curved in the longitudinal direction (FOA at p. 3), but the FOA is mistaken in this allegation. Rather, Lacasse's panel is curved in cross-section, and is straight in the longitudinal direction. For example, Figs. 9 and 10 of Lacasse are reproduced below, illustrate, among other things, a corrugated panel having wave-like stiffeners extending along the length of the panel. (Lacasse at col. 9, lines 50-64.)

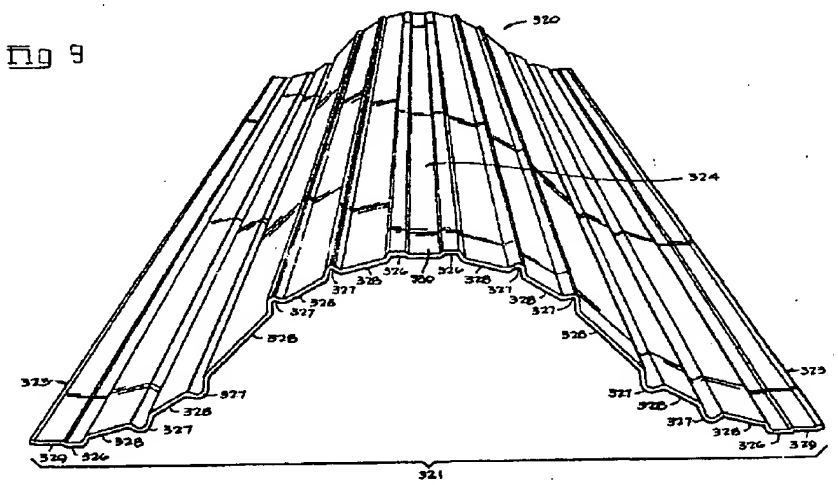

Fig. 9 of Lacasse
(Longitudinal Direction is Out of Plane of Paper)

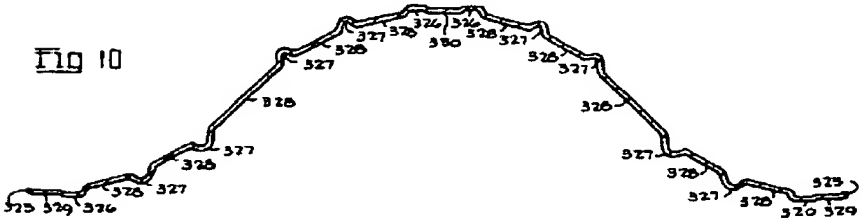

Fig. 10 of Lacasse
(Longitudinal Direction is Out of Plane of Paper)

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Lacasse explicitly describes Fig. 10 as a "transverse cross section" stating, "FIG. 2 is a transverse cross-section across the corrugated metal building panel of FIG. 1." (Lacasse at col. 6, lines 52-54.) Moreover, Lacasse explicitly describes the wave-like stiffeners as extending longitudinally, stating, "Each such major wave is provided with a plurality of spaced-apart, discontinuous, web zones, each web zone comprising a plurality of interlinked longitudinally extending wave-like stiffeners superposed thereon." (Lacasse Abstract; see also, e.g., col. 3, lines 50-60.) As such, the FOA is mistaken in alleging that "Lacasse discloses building panels curved in the longitudinal direction" (FOA at p. 3), when Lacasse clearly does not, and it is improper for the Office to attribute such a teaching to Lacasse, when Lacasse contains no such teaching.

Given these factual mistakes in the FOA and the associated vagueness of the rejection relating to Skillman, the rejection should be overturned.

6. The rejection of claim 1 does not make out a *prima facie* case of obviousness because there would have been no expectation of success in modifying Toti's panels to use Knudson's wing portions.

One of the hypothetical modifications suggested by the Office is to modify Toti's panel to include a pair of complementary wing portions as disclosed in Knudson, the alleged purpose being "to enable connection of various panels to form a single." (FOA at pp. 2-3.) One skilled in the art would not have found it obvious to do so because there would have been no expectation of success. (*See In re Merck & Co. Inc.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986) and MPEP § 2143.02.) In particular, there would have been no reasonable expectation of success since the complementary wing portions as disclosed in Knudson would not have been viewed as applicable to the ribbed edges that run the length of Toti's panels in the longitudinal direction. In particular, consider that Knudson's complementary wing portions appear as illustrated in Figs. 3-5 therein, reproduced below.

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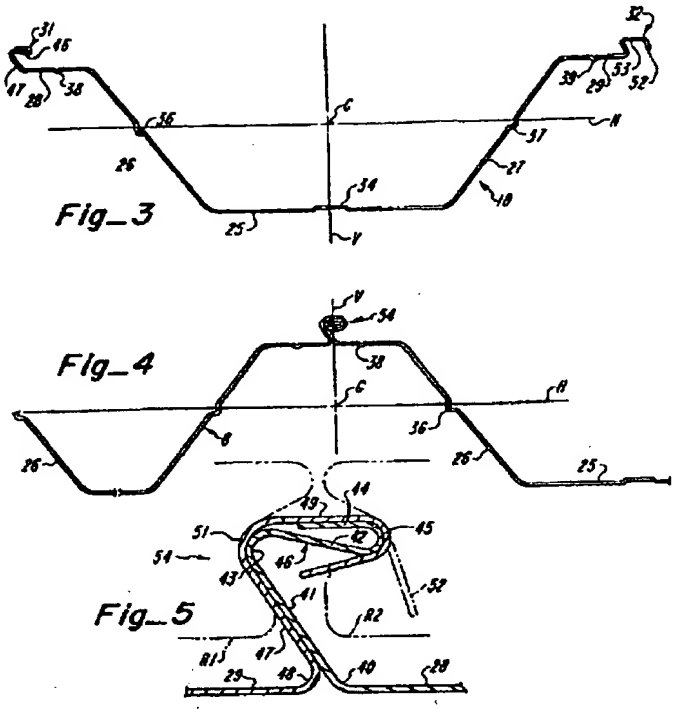

Figs. 3-5 of Knudson. Cross sectional view.

The wing portions of Knudson are features 28 and 29, which include fastening portions 31 and 32. (See, e.g., Knudson at Figs. 3-5 and col. 2, lines 29-39.) These wing portions 28 and 29 are shown in cross section and extend along the length of Knudson's panel Two adjacent panels are attached via the wing portions 28 and 29 as illustrated in Fig. 4 and at further magnification in Fig. 5. As shown in Fig. 5, the bend that mates two panels together at the wing portions 28 and 29 is a rather complicated one.

In contrast, Toti itself describes connecting panels together in Fig. 8 therein, reproduced below, in what the Office treats as the cross sectional direction in Toti.

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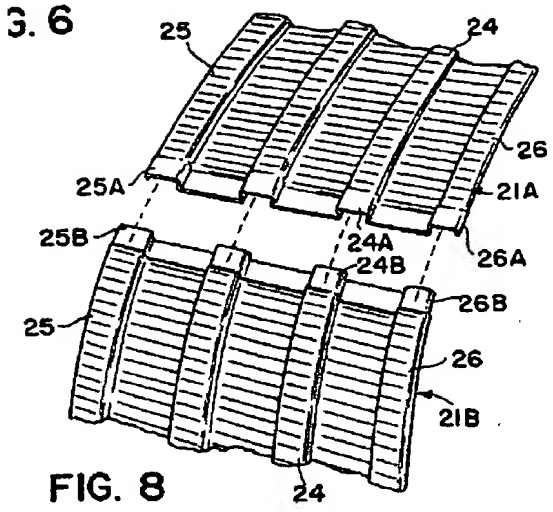

Fig. 8 of Toti. Perspective view.

Toti connects panels in the Office's identified cross-sectional direction by providing a female portion 24A of rib 24 that receives a male portion 24B of rib 24 in either a sliding engagement or a snap-together arrangement, where metal screws or pop rivets can be used to secure the joint. (Toti at Fig. 8 and col. 10, line 57 – col. 11, line 6.) This approach works well considering that Toti's panels have numerous ribs 24 extending sideways along the panel in Fig. 8 (which corresponds to the longitudinal direction in the Office's treatment).

Referring back to Figs. 3-5 of Knudson, one skilled in the art would readily understand that it would be futile to attempt to provide Knudson's wing portions 28 and 29 along the two edges of Toti's panels to be connected together in Fig. 8. Such wing portions 28 and 29 could provided along the abutting edges of Toti's panels since such wing portions would not be able to follow the up-and-down contours of Toti's ribs and maintain the required shape in an initially open configuration (see Knudson Fig. 3 above) such that the panels could first be joined and such that the wing portions could then be bent down into a seam. The topology of Toti's panel multiple ribs repeating up-and-down in the sideways (longitudinal) direction shown in Fig. 8 of Toti is simply not compatible with joining panels using Knudson's wing portions.

Since there would be no expectation of success, one skilled in the art would not have found it obvious to add complementary wing portions to Toti's panel, and the rejection should be overturned for this reason.

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7. The rejection of claims 1, 3 and 33 does not make out a *prima facie* case of obviousness because Toti teaches away from using Knudson's wing portions

As noted above, the Office suggests that it would have been obvious to modify Toti's panel to include a pair of complementary wing portions as disclosed in Knudson (FOA at pp. 2-3). It is respectfully submitted that the rejection does not make out a *prima facie* case of obviousness because Toti teaches away from the combination of references and teaches away from the claimed invention. (*See* MPEP § 2142.02(VI), MPEP § 2145(D)(2) and *W.L. Gore & Associates, Inc. v. Garlock, Inc.* discussed *supra.*)

In this case, Toti teaches away from the combination of references and teaches away from the claimed invention. In particular, as noted above, Toti already describes in connection with Fig. 8 (above) an advantageous approach for connecting panels together in the cross-sectional direction considered by the Office. Specifically, Toti provides a female portion 24A of rib 24 that receives a male portion 24B of rib 24 in either a sliding engagement or a snap-together arrangement, where metal screws or pop rivets can be used to secure the joint. (Toti at Fig. 8 and col. 10, line 57 – col. 11, line 6.) This approach is advantageous and plainly adapted to accommodate the numerous ribs 24 of Toti's panel extending in the sideways (longitudinal) direction along the panel in Fig. 8. Considering that Toti ***already provides a solution*** to the problem supposedly identified by the Office (a need to connect panels in the cross sectional direction), and considering that Toti's solution is well equipped to accommodate the ribs 24 of Toti's panel, one skilled in the art would not have been inclined to seek out vastly more complicated solution (Knudson's wing portions) that would plainly add complexity and expense over Toti's approach, and which, as explained above, would not have had a reasonable expectation of success in any event. Since the claims at issue require complementary wing portions, Toti also teaches away from the claimed invention for the same reasons.

Thus, since Toti teaches away from the Office's purported combination of references and teaches away from the claimed invention as explained above, the rejection should be overturned.

8. The rejection of claims 1, 3 and 33 improperly ignores art or record that strongly teaches away from using transverse corrugations in a curved central portion.

The Office's rejection also ignores art that strongly teaches away from the claimed subject matter – art that the Office has previously considered anticipatory but now does not – and in doing so, the rejection improperly ignores subject matter that supports the patentability

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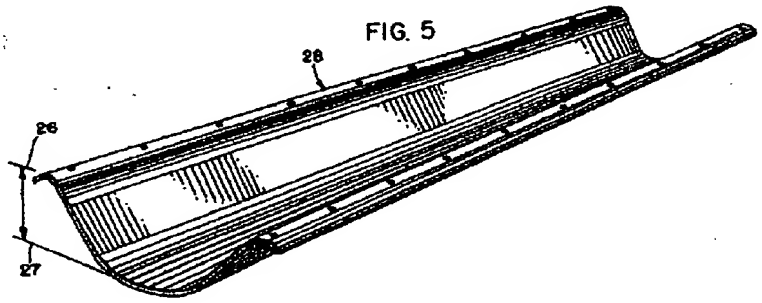
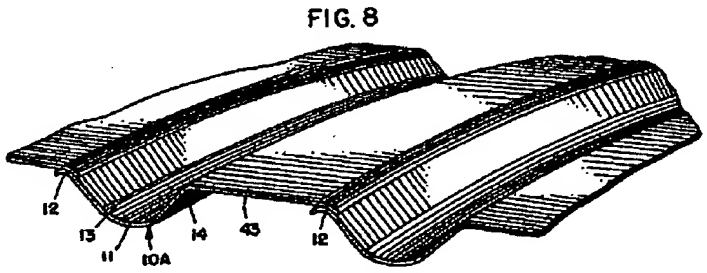
of the present claims. In particular, the MPEP states that, "The test for obviousness is what the combined teachings of the references would have suggested to one of ordinary skill in the art, and all teachings in the prior art must be considered to the extent that they are in analogous arts." (*See* MPEP 2143.01(II), discussing *In re Young*, 927 F.2d 588, 18 USPQ2d 1089 (Fed. Cir. 1991).)

In the present rejection, the Office is clearly not considering "all" the teachings in the prior art and what the combined teachings would have suggested to one skilled in the art.

Prior to Applicants' amendments to recite that the curved central portion included transverse corrugations therein, the Office had rejected the claims as allegedly anticipated by U.S. Patent No. 3,009,509 ("Martin"). However, Martin contains an express teaching away from transverse corrugations in a curved central portion as described in Applicants' Amendment dated October 9, 2007 at pages 5-6. Martin is not now being applied in the present rejection. Nonetheless, Martin is pertinent because the Office previously considered it an anticipatory reference, and now appears to entirely ignore it, notwithstanding Applicants' prior arguments that Martin's disclosure is strong evidence of patentability of the claimed invention.

For purposes of illustration, Figures 5 and 8 of Martin are reproduced below.





Figs. 5 and 8 of Martin

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In response to the prior rejection based on Martin, Applicants amended the claims to recite that the curved central portion included corrugations therein, and highlighted portions of Martin's disclosure that teach away from using transverse corrugations as now claimed:

> Heretofore, many panels of this type and configuration have been developed, but in nearly all cases transverse corrugations or the like have been formed in the panel in order to form the longitudinal arch in the panel. *It has been found that these cross or transverse corrugations weaken the panels.* (Martin, col. 1, lines 23-28, emphasis added.)

> Still another object of this invention is in the provision of a generally trough-shaped and longitudinally arched structural panel, wherein the longitudinal arching may be accomplished *without resorting to cross corrugations thereby giving a more durable and stronger panel.* (Martin, col. 1, lines 36-40, emphasis added.)

> A still further object of this invention is in the provision of a method of making a generally trough-shaped and longitudinally arched structural panel having smooth inner and outer surfaces wherein the arching of the panel is accomplished *without forming any cross corrugations therein thereby providing a stronger and more rigid panel.* (Martin, col. 1, lines 44-50, emphasis added.)

In other words, Martin discloses that transverse corrugations weaken the panel, and the Office improperly appears to ignore this disclosure. The Office is now silent on Martin and looks to other art that is on its face less relevant than Martin (Toti's window awning, and Knudson's panel with a straight central portion, for instance). It is believed that the Office's approach in this regard is improper, and that the rejection should be overturned for this additional reason.

9. Claim 1 is non-obvious, and dependent claims 3 and 33 are allowable at least by virtue of dependency.

For at least the above-noted reasons, the rejection of claim 1 should be overturned. The rejection of claims 3 and 33 should be overturned since those claims are allowable at least by virtue of dependency from claim 1.

B. The rejection of claims 1 and 3-12 under 35 U.S.C. §103(a) does not make out a *prima facie* case of obviousness

The rejection of claims 1 and 3-12 does not make out a prima facie case of obviousness for at least several reasons explained below.

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1. The Office's rejection suffers from internal inconsistencies and lack of clarity so prevalent as to prevent the rejection from being understood.

The obviousness rejection of claims 1 and 3-12 at pages 4-7 of the FOA in view of Knudson and secondary references is facially improper because of internal inconsistencies and failure to identify what is supposedly being modified and why. The rejection therefore fails to set out a proper *prima facie* case of obviousness and should be overturned. Among the deficiencies are the following:

1) The FOA is inconsistent and unclear as to how Knudson and Lacasse are being relied upon. At page 4, the FOA lists Knudson as the primary reference and Toti, Lacasse and Skillman as secondary references to reject claim 1. At page 4, the FOA alleges that Knudson Fig. 13 discloses claim elements labeled (a) to (c), including an allegation that Knudson discloses a curved central portion (it does not, as described below), but the FOA fails to allege that the curved central portion has "a curved shape in cross section perpendicular to a longitudinal direction along a length of the building panel." The FOA at page 5 then goes on to allege that ***Lacasse*** discloses the ***same features*** (a) – (c) that were allegedly disclosed by ***Knudson***. As such, the rejection provides no coherent explanation of which features of Knudson and Lacasse are being relied upon for what. This is not merely an academic discussion - Applicants are entitled to know which features of the applied art are being relied upon for what purpose in order to fully evaluate the propriety of the rejection without engaging in guesswork.

2) The FOA is unclear as to how Toti is being relied upon as a secondary reference. In addition to the structure of the FOA described above, the FOA at page 5 then alleges that "Both panels of Toti and Knudson are curved in the longitudinal direction . . ." without having previously introduced Toti in this rejection. The FOA at page 5 then cites to ***Lacasse*** for allegedly disclosing panels that are curved in the longitudinal direction and alleges that it would have been obvious to curve "the base reference", i.e., Knudson's panel, in "any direction to create an alternative design feature." (FOA at p. 3.) Under a heading labeled "claim 3" at page 5 of the FOA, the FOA then states, "Lacasse and Toti discloses wherein said curved central portion comprises an arc. See above for the disclosure of Toti." This latter statement regarding Toti is made without explanation, notwithstanding the fact that Toti was previously used as a primary reference, ***not*** a secondary reference. Then, under a heading labeled "claim 12" at page 6 of the FOA, the FOA alleges that ***Knudson*** and ***Lacasse*** disclose a building panel wherein side portions extend at an incline, and then, inexplicably,

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inserts a marked up version of ***Fig. 2 of Toti***, which is then not commented upon whatsoever. As such, it is not clear how the Office is relying upon Toti in this rejection, and again the Applicant is left to guess.

3) The FOA at pages 5-6 then goes on to allege, "In view of the above: It would have been obvious to fashion the panel to have a curved shape in cross section perpendicular to a longitudinal direction along the length of the building panel and to include the arc central portion to construct a central portion that is easier to fashion as shown by the secondary references in order to easily vary the configuration of the panel." This statement is inconsistent with the prior statement of the FOA that ***already alleged*** that Knudson disclosed a curved central portion. Moreover, the prefatory statement "In view of the above" is wholly unspecific with regard anything that has been alleged previously in the FOA. The purported reason for the modification – "to construct a central portion that is easier to fashion as shown by the secondary references in order to easily vary the configuration of the panel" – is provided without any citation to the prior art, and the cursory statement "In view of the above" is plainly insufficient without evidentiary citation (as will be discussed further below).

4) The rejection as articulated as to claim 1 does not even make an allegation relating to the fact that claim 1 requires the panel to be configured to be a load bearing panel of a self-supporting building structure. The FOA does not make such an allegation until a discussion headed "claims 8-11" at page 7, at which point the FOA cites to Skillman for such a proposition as was done in the obviousness rejection of claim 1 using Toti as the primary reference.

In sum, it is not clear which reference is the being relied upon as the primary reference (Knudson or Lacasse), what is hypothetically being modified, how the Office is relying upon Toti, and how the Office is relying on the secondary references for the alleged reason for the purported modification. The rejection should be overturned for at least these reasons.

2. The rejection fails to make out a prima facie case of obviousness since the Office's reason for the purported modification is wholly unsupported by the evidence of record.

In rejecting claim 1 at pages 4-7 of the FOA, the Office asserts without citation to any portion of any reference that one skilled in the art would have found it obvious to modify Knudson's panel to include a curved central portion on grounds that it would have been "easier to fashion as shown by the secondary references in order to easily vary the

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configuration of the panel." (FOA at pp. 5-6.) The Office has provide ***no evidentiary support*** for this allegation and instead makes the broad assertion that such is "shown by the secondary references." (FOA at p. 6.) The Office cites no portion of any of the references that suggests that it would be easier to fashion a panel with a curved central portion as opposed to a panel with a straight central portion and sidewalls as disclosed in Knudson. Indeed, Applicants review of the applied references reveals no such suggestion. The Office's assertion is therefore facially unsupported, and the rejection must be overturned. Under *KSR*, the standard for obviousness is not whether a prior art *can be* modified, but rather whether there is a teaching in the art or knowledge of one of skill in the art to make the modification. Here, the Office has provided no such evidence.[5]

3. The rejection fails to make out a prima facie case of obviousness since even if combined, *arguendo*, the applied references would not yield the combination of features claimed in claim 1

The rejection set forth at pages 4-6 of the FOA purports to be an obviousness rejection of claim 1 based on Knudson as a primary reference and based on Toti, Lacasse and Skillman as secondary references. As noted above, it is not clear whether Knudson or Lacasse is being used as the primary reference. In any event, claim 1 is not obvious regardless of which reference is used as the primary reference.

Claim 1 is also not obvious in view of the applied references if Knudson is being used as the primary reference since there is no evidence that the resulting panel would have side wall portions including straight portions that extend tangentially from a curved central portion.

In rejecting claim 1, the Office states that Knudson discloses a panel with a curved central portion as being the region between features 26 and 27. (FOA at p. 4.) This is incorrect. As noted in Section A.6 of this Brief above, and as reproduced here, Figs. 3 and 13 of Knudson shows a central portion 25 that is plainly straight, not curved.

[5] In addition, the Office's suggested modification of providing a curved shape in cross section is inconsistent the Office's prior statement at page 4 of the FOA that Knudson discloses a curved central portion, which is does not as explained herein.

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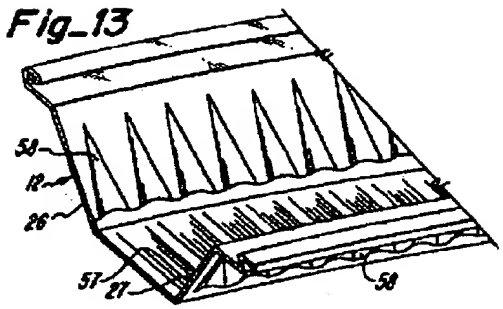

Fig. 13 of Knudson (US 4,505,084) Showing Panel in Perspective View

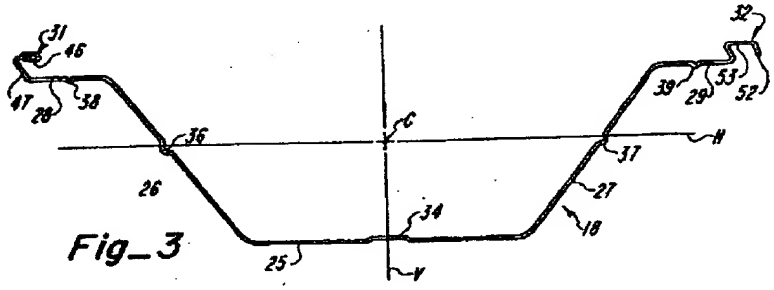

Fig. 3 of Knudson (US 4,505,084) Showing Panel in Cross Section (Longitudinal Direction is Out of Plane of Paper)

This panel shown above in Fig. 3 of Knudson is nearly identical to panel 400 shown in Fig. 4 of the present application, reproduced below.

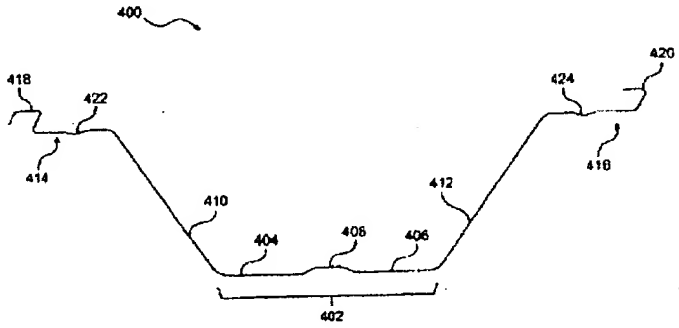

FIG. 4

Fig. 4 of present application with straight central portion 402.

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The present application describes the known panel of Fig. 4 of the present application, shown above, as having a straight central portion 402, even with its inclusion of a notch 408, stating, "The central portion 402 is straight, and in order to increase that portion's stiffness, it may include a notched portion 408." (Application at p. 2, lines 19-21.)

Applicants note that, notwithstanding the fact that Knudson does not disclose a curved central portion, the FOA alleges it would have been obvious to make Knudson's central portion 25 to be curved in cross section. (FOA at pp. 5-6.) As noted previously herein, the Office has cited ***no evidence*** for that proposition. Moreover, the Office has not described ***any details*** of how the panel would look thereafter. This is important because claim 1 recites a particular cross sectional shape that requires more than simply a curved central portion in cross section. Claim 1 requires, among other things, 1) a curved central portion that has a curved shape in cross section perpendicular to a longitudinal direction along a length of the building panel, and 2) sidewall portions that comprise ***straight portions that extend tangentially in cross section from the concave-shaped curved central portion***.

While the FOA alleges in conclusory fashion that the side wall portions 26 and 27 of Knudson's panel extend tangentially from Knudson's alleged curved central portion, this is an erroneous allegation. Knudson's panel does not have a curved central portion, and the sidewall portions 26 and 27 shown in Figures 3 and 13 of Knudson ***do not extend tangentially in cross section from the central portion whatsoever***. Accordingly, Knudson itself fails to disclose all of the features of claim 1. Moreover, the FOA has not specified how one skilled in the art would have been inclined to allegedly modify Knudson's panel and exactly what shape that panel would have. As a result, there is no evidence to suggest that one skilled in the art would have modified Knudson's panel to have side walls with straight portions that extend tangentially from a curved central portion. The rejection plainly fails for at least this reason and should be overturned.

In addition, claim 1 is not obvious in view of the applied references if Lacasse is being used as the primary reference.

As noted above, the FOA appears to cite Figure 9 of Lacasse for purportedly disclosing all of the claimed features. The FOA alleges: that portion 330 of Lacasse is a curved central portion, that the alleged "curved central portion" has transverse corrugations therein, that features 328 correspond to the claimed pair of side wall portions, that features 329 correspond to the claimed pair of complementary wing portions, and that the remaining requirements of the claim are met by Figure 9 of Lacasse. (FOA at p. 5.) The Office then makes the same unsupported allegations that were made for Knudson regarding 1) that it

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would be obvious to curve the panel in the longitudinal direction because it would be obvious to curve it "any direction" as an "alternative design feature." (FOA at p. 5.) Applicants disagree.

Even if Lacasse were hypothetically modified, it would not have 1) transverse corrugations nor 2) side wall portions with straight portions that extend tangentially from a curved central portion. As noted above, claim 1 requires, among other things, 1) a curved central portion that has a curved shape in cross section perpendicular to a longitudinal direction along a length of the building panel, 2) sidewall portions that comprise straight portions that extend tangentially in cross section from the concave-shaped curved central portion, and 3) a longitudinally curved building panel. Contrary to the Office's allegations, it is clear from Figures 9 and 10 of Lacasse (shown below) that the panel of Lacasse does not have ***transverse*** corrugations therein, as required by independent claims 1 and 15. As shown in Figure 9 of Lacasse reproduced below, contrary to the Examiner's assertion, Lacasse clearly discloses only longitudinal corrugations extending along the length of Lacasse's panel. The longitudinal direction of Lacasse's panel is out of the plane of the paper, and the cross sectional direction of Lacasse's panel is in the plane of the paper. This is evident since Lacasse explicitly refers to Figure 10 (which shows the shape of the Figure 9 panel in the plane of the paper) as "a transverse cross-section." (See Lacasse at col. 6, lines 52-54.)

Fig 9

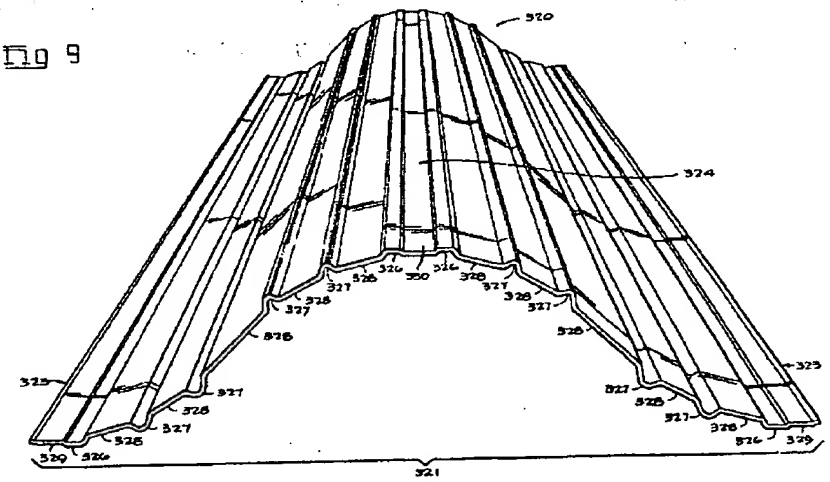

Fig. 9 of Lacasse
(Longitudinal Direction is Out of Plane of Paper)

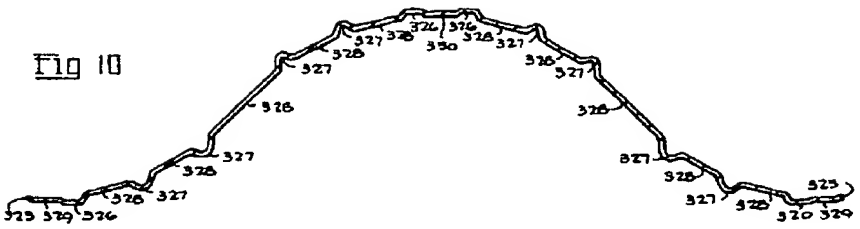

Fig. 10 of Lacasse
(Longitudinal Direction is Out of Plane of Paper)

In addition, the Office Action makes no allegation whatsoever for hypothetically modifying Lacasse's panel to have transverse corrugations. Indeed, such an allegation would be contrary to the teachings of record. In particular, as noted above, U.S. Patent No. 3,009,509 ("Martin") of record contains an express teaching away from transverse corrugations in a curved central portion as described above herein.

Accordingly, it is plainly evident that the applied references, using Lacasse as the primary reference, do not render independent claim 1 obvious.

Moreover, Applicants disagree with the Office's assessment of Lacasse. Contrary to the Office's suggestion, portion 330 shown in Lacasse's Figure 9 is not curved, but is instead straight, as is plainly evident from Figure 9 itself. Further, portions 329 do not "extend tangentially *in cross section* from the concave-shaped curved central portion" as required by the independent claims. Thus, the Office's obviousness rejection, assuming Lacasse is used as the primary reference, is plainly flawed for these additional reasons.

4. Claim 1 is non-obvious, and dependent claims 3 and 33 are allowable at least by virtue of dependency.

For at least the above-noted reasons, the rejection of claim 1 should be overturned. The rejection of claims 3-12 should be overturned since those claims are allowable at least by virtue of dependency from claim 1.

C. The rejection of claims 14-15, 17-20, 28-30 32 and 34 under 35 U.S.C. §103(a) does not make out a *prima facie* case of obviousness

The rejection of claims 14-15, 17-20, 28-30, 32 and 34 in view of Knudson, Toti, Lacasse, Skillman, Karoubas, and Haines does not make out a prima facie case of obviousness for at least several reasons. This rejection largely tracks the rejection of claims 1 and 3-12 using Knudson as the primary reference, with additional reliance upon Karoubas for allegedly disclosing corrugations in multiple directions (FOA at p. 8) and with reliance on

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Haines for allegedly showing another panel curved in the longitudinal direction (FOA at p. 9.) Applicants submit that these claims are patentable over the applied references.

1. The rejection fails to make out a prima facie case of obviousness since the Office's reason for the purported modification is wholly unsupported by the evidence of record.

In rejecting independent claim 15 at pages 7-9 of the FOA, the Office asserts without citation to any portion of any reference that one skilled in the art would have found it obvious to modify Knudson's panel to include a curved central portion on grounds that it would have been "easier to fashion as shown by the secondary references in order to easily vary the configuration of the panel." (FOA at pp. 9.) The Office cites no portion of any of the references that suggests that it would be easier to fashion a panel with a curved central portion as opposed to a panel with a straight central portion and sidewalls as disclosed in Knudson. Indeed, Applicants review of the applied references reveals no such suggestion. The Office's assertion is therefore facially unsupported, and the rejection must be overturned. Under *KSR*, the standard for obviousness is not whether a prior art *can be* modified, but rather whether there is a teaching in the art or knowledge of one of skill in the art to make the modification. Here, the Office has provided no such evidence.[6] The Office's new purported reliance on Karoubas and Haines does not make up for that deficiency.

2. The rejection fails to make out a prima facie case of obviousness since even if combined, *arguendo*, the applied references would not yield the combination of features claimed in claim 1

Claim 15 is also not obvious in view of the applied references if Knudson is being used as the primary reference since there is no evidence that the resulting panel would have side wall portions including straight portions that extend tangentially from a curved central portion.

In rejecting claim 1, the Office states that Knudson discloses a panel with a curved central portion as being the region between features 26 and 27. (FOA at p. 4.) This is incorrect. As noted previously herein, Figs. 3 and 13 of Knudson shows a central portion 25 that is plainly straight, not curved.

Applicants note that, notwithstanding the fact that Knudson does not disclose a curved central portion, the FOA alleges it would have been obvious to make Knudson's central portion 25 to be curved in cross section. (FOA at pp. 8-9.) As noted previously herein, the

[6] In addition, the Office's suggested modification of providing a curved shape in cross section is inconsistent the Office's prior statement at page 8 of the FOA that Knudson discloses a curved central portion, which is does not as explained herein.

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Office has cited ***no evidence*** for that proposition. Moreover, the Office has not described ***any details*** of how the panel would look thereafter. This is important because claim 15 recites a particular cross sectional shape that requires more than simply a curved central portion in cross section. Claim 15 requires, among other things, 1) a curved central portion that has a curved shape in cross section perpendicular to a longitudinal direction along a length of the building panel, and 2) sidewall portions that comprise s***traight portions that extend tangentially in cross section from the concave-shaped curved central portion.***

While the FOA alleges in conclusory fashion that the side wall portions 26 and 27 of Knudson's panel extend tangentially from Knudson's alleged curved central portion, this is an erroneous allegation. Knudson's panel does not have a curved central portion, and the sidewall portions 26 and 27 shown in Figures 3 and 13 of Knudson ***do not extend tangentially in cross section from the central portion whatsoever.*** Accordingly, Knudson itself fails to disclose all of the features of claim 15. Moreover, the FOA has not specified how one skilled in the art would have allegedly modified Knudson's panel and exactly what shape that panel would have taken. As a result, there is no evidence to suggest that one skilled in the art would have modified Knudson's panel to have side walls with straight portions that extend tangentially from a curved central portion. The Office's new purported reliance on Karoubas and Haines does not make up for that deficiency.The rejection plainly fails for at least this reason and should be overturned.

3. Claim 15 is non-obvious, and dependent claims 14, 17-20, 28-30, 32 and 34 are allowable at least by virtue of dependency.

For at least the above-noted reasons, the rejection of claim 15 should be overturned. The rejection of claims 17-20, 28-30, 32 and 34 should be overturned since those claims are allowable at least by virtue of dependency from claim 15. The rejection of claim 14 should be overturned at least because that claims is allowable at least by virtue of dependency from claim 1.

D. Conclusion

The Office's rejection of independent claims 1 and 15 under 35 U.S.C. 103(a) does not make out a prima facie case of obviousness. The rejections of claims 1 and 15 should be overturned. The rejections of claims 3-12, 14, 17-20, 28-30, 33 and 34 should likewise be overturned at least by virtue of dependency of those claims. Thus, Appellant believes the

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rejected claims are in condition for allowance. Appellant respectfully requests reversal of the Examiner's rejection and allowance of all pending claims.

VIII. Claims Appendix

A Claims Appendix containing a copy of the claims subject to this appeal is attached.

IX. Evidence Appendix

No evidence is being submitted pursuant to 37 C.F.R. §§ 1.130, 1.131, or 1.132.

X. Related Proceedings Appendix

There is a related appeal of U.S. Patent Application No. 12/068,425. A related proceedings appendix is attached indicating that a decision has not yet been rendered by the Board of Patent Appeals and Interferences in the appeal of related U.S. Patent Application No. 12/068,425, which is a divisional of the instant application (US Serial No. 09/896,365).

The Commissioner is authorized to charge any fees that may be required by this paper to Jones Day Deposit Account No. 503-013 to maintain the pendency of this application.

Respectfully submitted,

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CLAIMS APPENDIX

1. (Previously Presented) A building panel configured to be a load-bearing panel of a self-supporting building structure, the building panel comprising:

(a) a curved central portion having a curved shape in cross section perpendicular to a longitudinal direction along a length of the building panel, the curved central portion having transverse corrugations therein;

(b) a pair of side wall portions extending from opposite ends of said curved central portion in cross section, said curved central portion being concave-shaped in cross section from a perspective between said side wall portions, wherein said sidewall portions comprise straight portions that extend tangentially in cross section from the concave-shaped curved central portion;

(c) a pair of complementary wing portions extending from said side wall portions,

(d) wherein said building panel is curved in the longitudinal direction; and

(e) wherein said building panel is formed from sheet material and configured to mate with adjacent building panels so as to form a load-bearing panel of a self-supporting building structure.

2. (Canceled).

3. (Previously Presented) The building panel of Claim 1, wherein said curved central portion comprises an arc.

4. (Original) The building panel of Claim 3, wherein said arc ranges from 15° to 130°.

5. (Original) The building panel of Claim 3, wherein said arc ranges from 40° to 130°.

6. (Original) The building panel of Claim 5, wherein said arc ranges from 60° to 120°.

7. (Original) The building panel of Claim 6, wherein said arc is 85°.

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8. (Original) The building panel of Claim 3, wherein said arc has a radius ranging from 4 inches to 25 inches.

9. (Original) The building panel of Claim 3, wherein said arc has a radius ranging from 4 inches to 12 inches.

10. (Original) The building panel of Claim 9, wherein said radius ranges from 5 inches to 8 inches.

11. (Original) The building panel of Claim 9, wherein said radius is 6 inches.

12. (Previously Presented) The building panel of Claim 1, wherein said side wall portions extend at an incline from said opposite ends of said curved central portion.

13. (Canceled).

14. (Original) The building panel of Claim 1, wherein one of said wing portions comprises a hook portion and the other of said wing portions comprises a hem portion.

15. (Previously Presented) A self-supporting building structure, comprising a plurality of interconnected panels configured to be a load-bearing wall of the self-supporting building structure, one or more of said panels comprising:

(a) a curved central portion having a curved shape in cross section perpendicular to a longitudinal direction along a length of the building panel, the curved central portion having transverse corrugations therein;

(b) a pair of side wall portions extending from opposite ends of said curved central portion in cross section, said curved central portion being concave-shaped in cross section from a perspective between said side wall portions, wherein said side wall portions comprise straight portions that extend tangentially in cross section from the concave-shaped curved central portion;

(c) a pair of wing portions extending from said side wall portions, wherein one wing portion extends from a first of said side wall portions and the other wing portion extends from

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a second of said side wall portions, wherein said one wing portion from a first of said panels is connected to said other wing portion from a second of said panels,

(d) wherein each of the one or more panels is curved in the longitudinal direction; and

(e) wherein each of the one or more panels are formed from sheet material and configured to mate with adjacent building panels so as to form a load-bearing wall of a self-supporting building structure.

16. (Canceled).

17. (Previously Presented) The building structure of Claim 15, wherein said curved central portion comprises an arc.

18. (Original) The building structure of Claim 17, wherein said arc ranges from 15° to 130°.

19. (Previously Presented) The building structure of Claim 17, wherein said arc has a radius ranging from 4 inches to 25 inches.

20. (Original) The building structure of Claim 15, wherein said one wing portion comprises a hook portion and said other wing portion comprises a complementary hem portion such that said hook and hem portions interconnect.

21-27. (Canceled).

28. (Previously Presented) The building structure of Claim 15, wherein said side wall portions extend at an incline from said opposite ends of said curved central portion.

29. (Previously Presented) The building structure of Claim 15, wherein said central portion is without a longitudinal stiffening notch.

30. (Previously Presented) The building panel of Claim 1, wherein said central portion is without a longitudinal stiffening notch.

31. (Canceled)

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32. (Canceled)

33. (Previously presented) The building panel of Claim 1, wherein the curved central portion is curved in cross section over an entire width of the curved central portion.

34. (Previously presented) The building structure of Claim 15, wherein the curved central portion is curved in cross section over an entire width of the curved central portion.